

Project Description

CASA MINI is a small-footprint casita designed for local Tucsonans. CASA Mini comes in at just below 350 square feet, with a studio-style arrangement, housing all the necessary amenities that encourage a full lifestyle for a young couple, aging-in-place individuals, and more.

CASA MINI provides a well-designed studio space that fosters small living, providing a low-cost opportunity to bring more housing options to our Tucson community

Project Narrative

CASA MINI is very compact yet it has been equipped with a full kitchenette, washer and dryer, and a full bath. This casita encourages small living lifestyles interested in sustainable harvesting of natural resources like water and solar energy

CASA MINI takes into account our desert climate. The main exterior wall assembly consists of a Slump-Block Mass Wall design with insulated wood-framed walls, a slab-on-grade, and an unvented insulated wood-framed roof. The roof is designed to butterfly to one downspout, gathering rainwater into a 500-gallon water tank for irrigation purposes. The lowslope roof is to be solar-ready and be able to receive solar PV panels. Fenestration along the perimeter of CASA MINI has been thoughtfully designed as small punched windows, regulating daylight and solar heat gain inside the house.

CASA MINI encourages the use of a ducted heat pump mini split HVAC system for both heating and cooling. This is inline with an all electric (no fossil fuel) appliance package

CASA MINI provides for accessibility and Universal Design goals by being a single-level design with flush thresholds at all floor transitions and doorways, along with a galley-style kitchen, and an optional removal of partitions in the bathroom for wheelchair access

CASA MINI can be used as either a guest house or a work-from-home office, the open plan allows for flexibility in meeting the ever-changing demands of our lives. CASA MINI can also be adapted as a 1-bedroom casita (see plan variation). This variation allows for a single bedroom and covered entry porch. CASA MINI can then be oriented towards the principal residence, creating a courtyard arrangement and encouraging communal shared spaces. Or, CASA MINI can be oriented away from the principal residence, creating privacy between the occupants.

CASA MINI is designed with different properties in mind and with a small adaptable footprint to meet the demands of different individuals.



CASA MINI
TUCSON, ARIZONA

DESIGN NOTES

ACCESSIBLE

- SINGLE-LEVEL LIVING
- FLUSH THRESHOLD DOORS & FLOORING TRANSITIONS
- OPEN PLAN DESIGN
- LEVER & GRASPABLE HANDLES
- WALL BLOCKING FOR GRAB BARS
- 32" CLR. AT ALL DOORWAYS
- GALLEY KITCHEN DESIGN
- OPTIONAL NO-PARTITION AT BATHROOM (WHEELCHAIR ACCESS)

LOW COST & CONSTRUCTABILITY

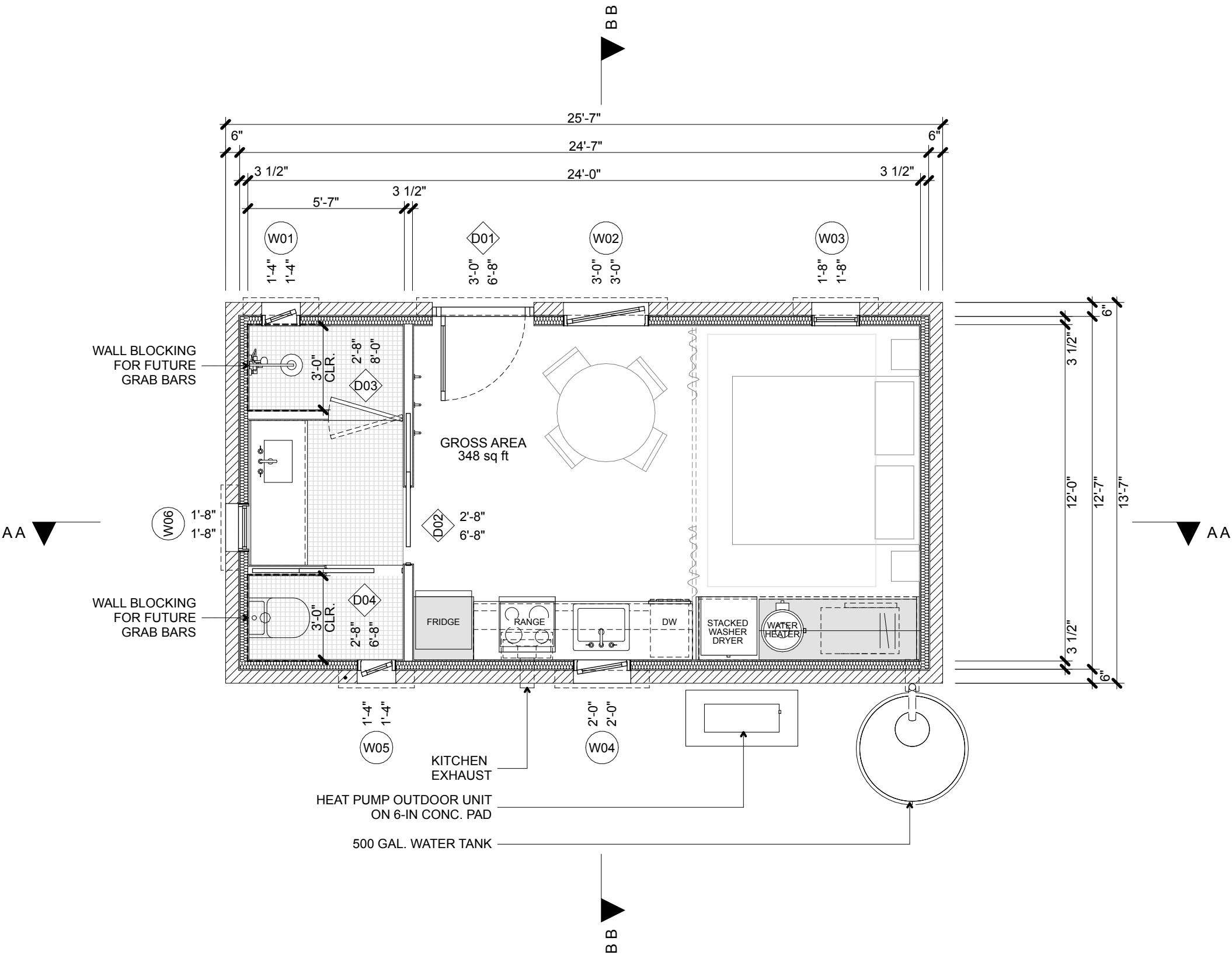
- ENCOURAGES SMALL LIVING LIFESTYLES
- SMALL IMPACT & FOOTPRINT (< 350 S.F.)
- SMALL PUNCHED WINDOW OPENINGS
- WOOD-FRAMED ROOF, UNVENTED
- SLUMP-BLOCK MASS WALL, INSULATED W/ WOOD-FRAMED WALLS
- SLAB-ON-GRADE FOUNDATION

SUSTAINABLE DESIGN

- HEAT PUMP MINI-SPLIT HEATING & COOLING
- OPTIONAL SPOT ENERGY VENTILATOR (ERV)
- LOW-COST MASS WALL DESIGN IDEAL FOR DESERT CLIMATE
REGULATING SOLAR HEAT GAIN
DIURNAL TEMPERATURE CHANGES
DAYLIGHT THROUGHOUT THE YEAR
- LOW-SLOPE ROOF IDEAL FOR SOLAR PANEL INSTALLATION
- RAINWATER COLLECTION (500 GAL. WATER TANK)
- ALL ELECTRIC, NO FOSSIL FUEL APPLIANCES
- COOL ROOF MEMBRANE

ADAPTABLE OPTIONS

- OPEN PLAN WORKS AS OFFICE OR GUEST HOUSE
- A 1-BEDROOM DESIGN W/ COVERED PORCH CAN BE ADDED
NORTH OF PLAN, SEE VARIATION PLAN INCLUDED
- CASA MINI CAN BE ORIENTED AWAY FROM THE PRINCIPAL
RESIDENCE FOR PRIVACY
- CASA MINI CAN BE ORIENTED TOWARD THE PRINCIPAL RESIDENCE
FOR COURTYARD ARRANGEMENT



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↑ FLOOR PLAN
SCALE: 1/4" = 1'-0"

CASA MINI
TUCSON, ARIZONA

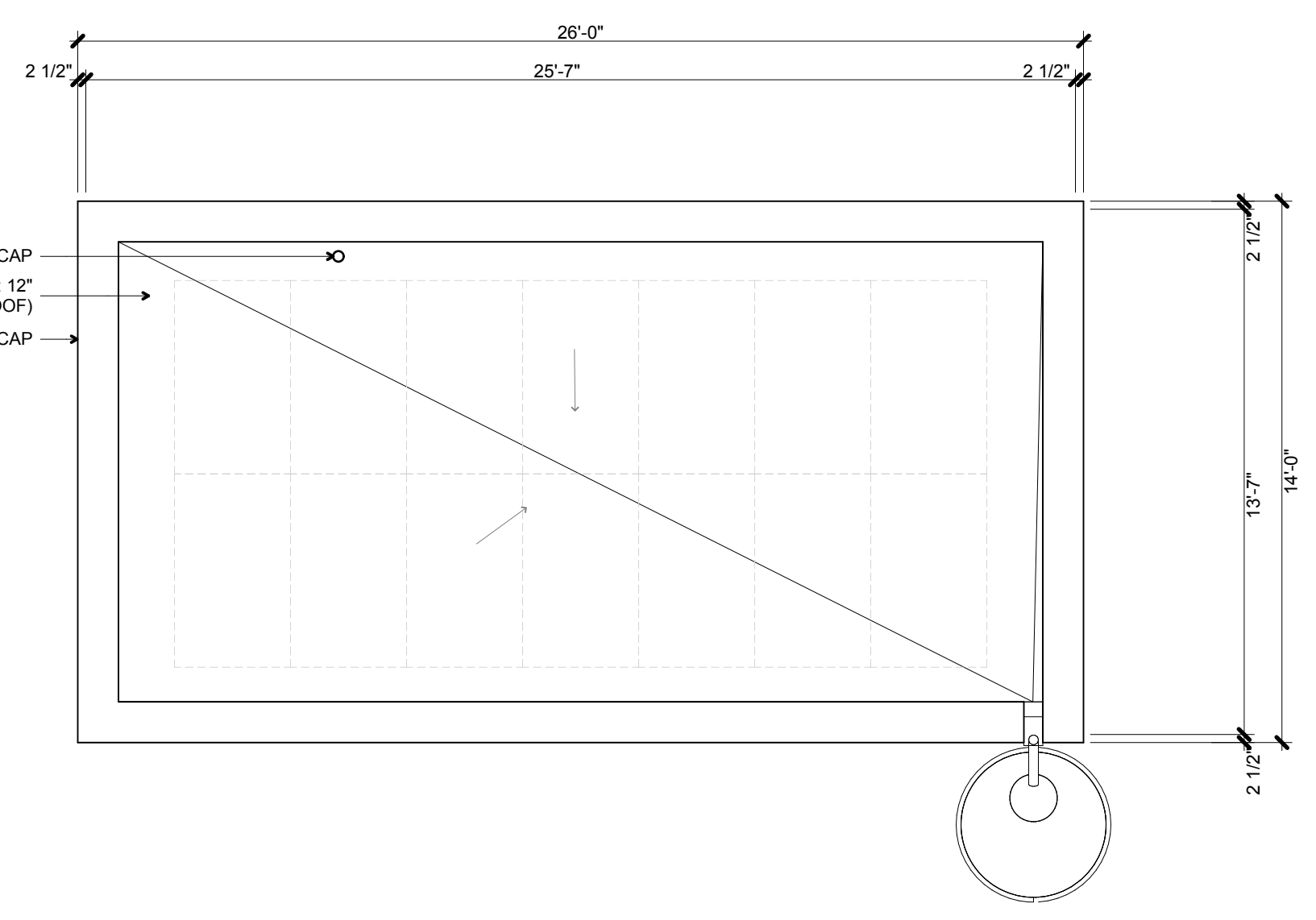
SOLAR-READY CAP
LOW-SLOPE ROOF 1/4" : 12"
(COOL ROOF)
EDGE OF PARAPET CAP

AA

BB

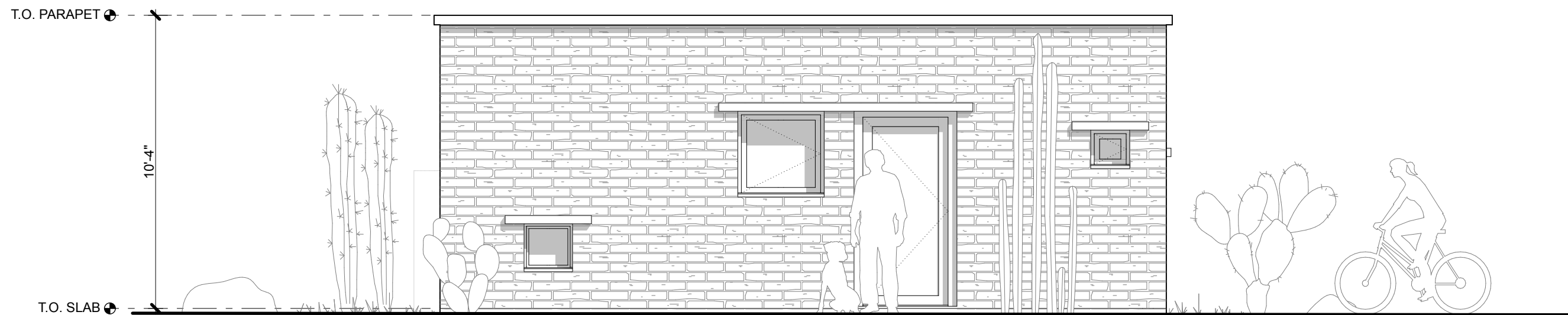
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AA



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ROOF PLAN
SCALE: 1/4" = 1'-0"

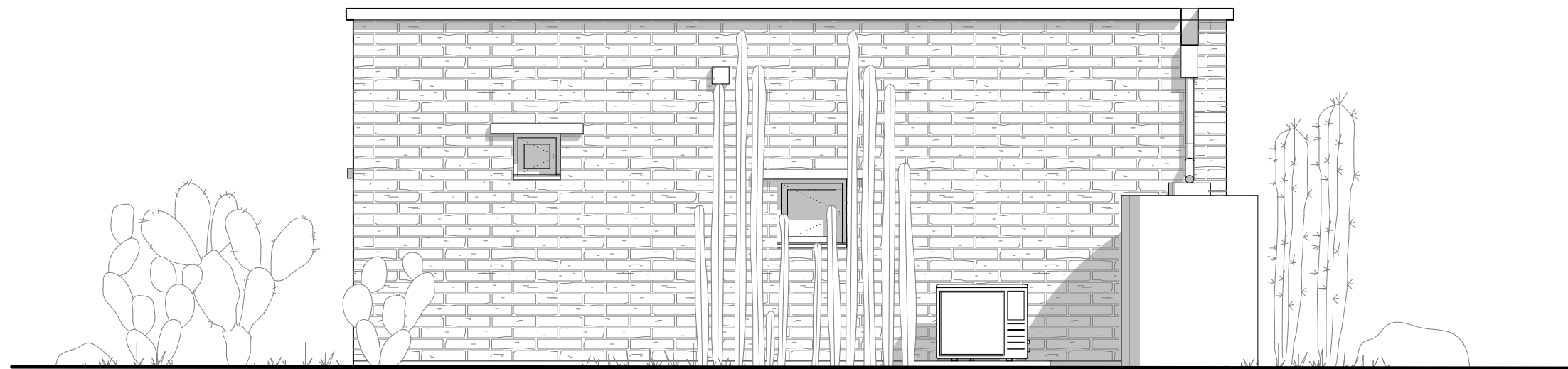
CASA MINI
TUCSON, ARIZONA



NORTH ELEVATION
SCALE: 1/4" = 1'-0"

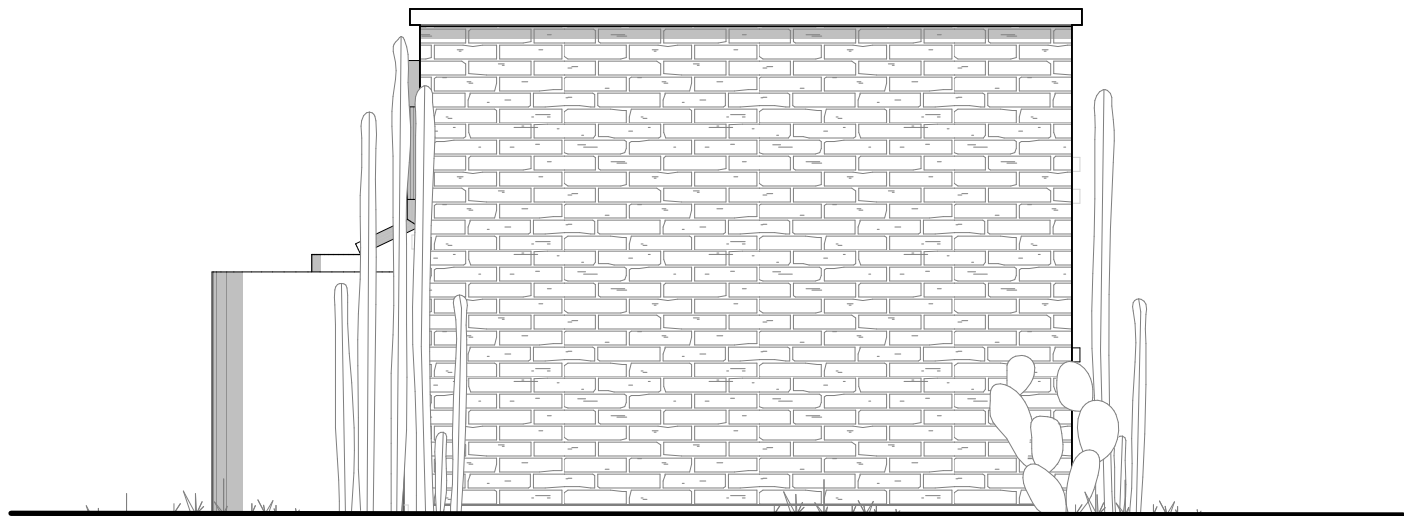
CASA MINI

TUCSON, ARIZONA

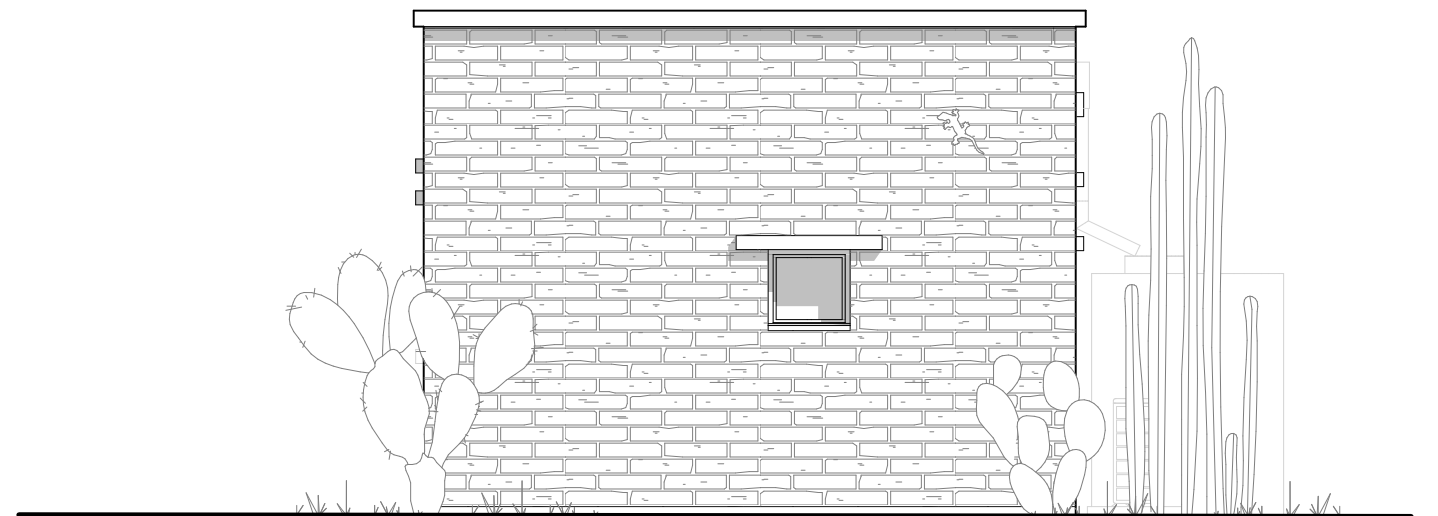


SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

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EAST ELEVATION
SCALE: 1/4" = 1'-0"

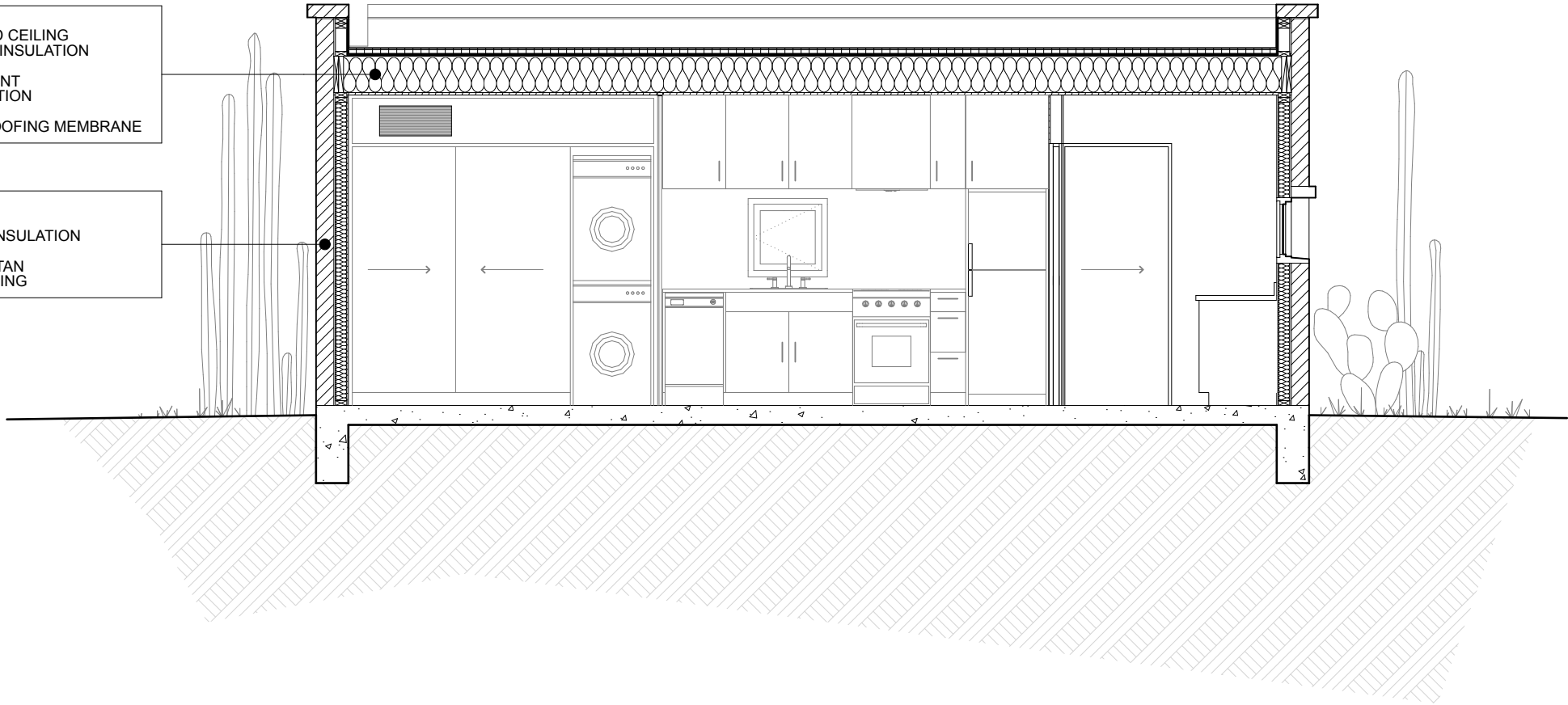


WEST ELEVATION
SCALE: 1/4" = 1'-0"

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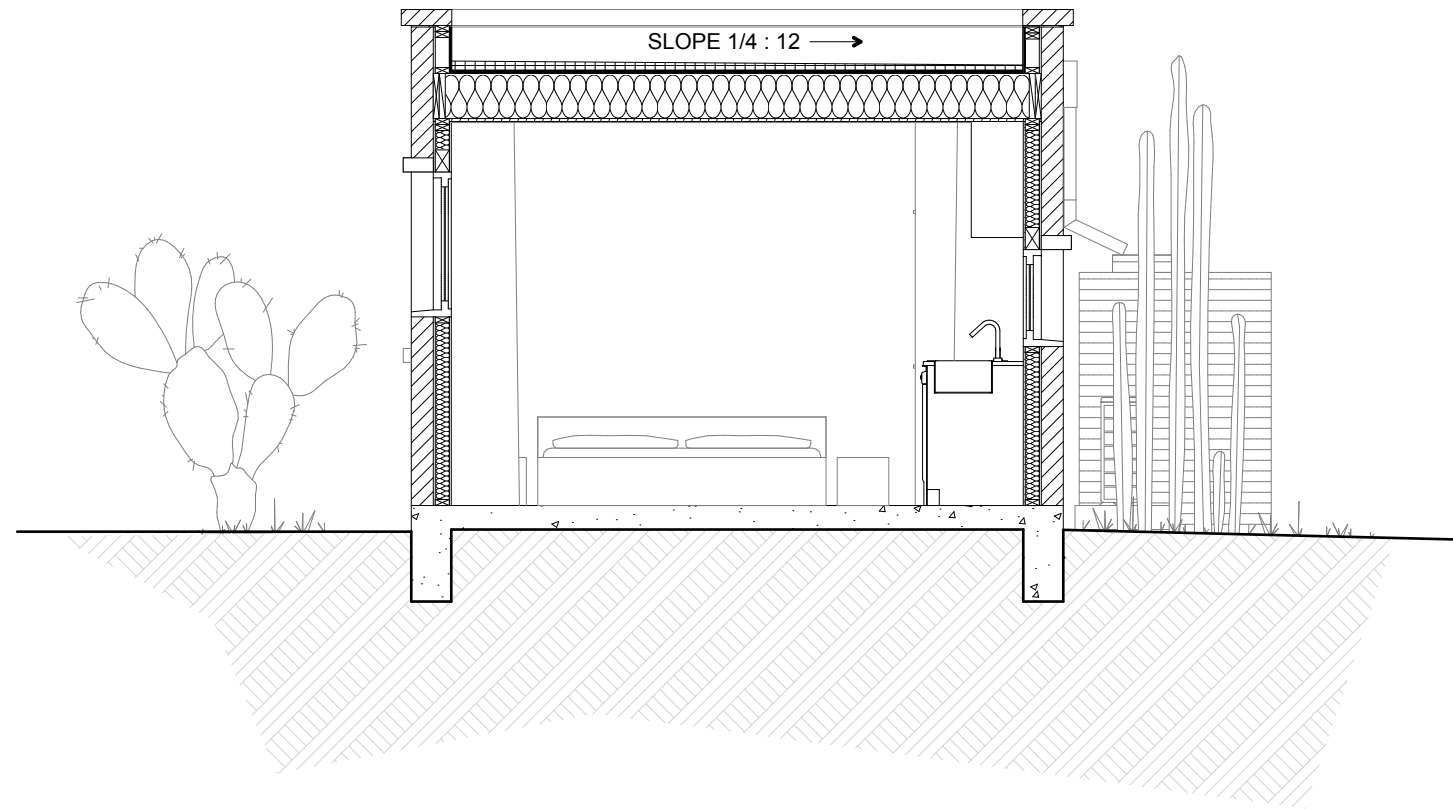
ROOF ASSEMBLY
1/2" DRYWALL OR WOOD CEILING
2X12 FRAMING W/ BATT INSULATION
3/4" SHEATHING
ROOFING UNDERLAYMENT
TAPERED RIGID INSULATION
PROTECTION BOARD
WHITE (COOL ROOF) ROOFING MEMBRANE

WALL ASSEMBLY
1/2" DRYWALL
2X4 FRAMING W/ BATT INSULATION
1/2" SPACING
4X4X16 SLUMP BLOCK, TAN
WATERPROOFING COATING



SECTION A A
SCALE: 1/4" = 1'-0"

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TUCSON, ARIZONA



SECTION B B
SCALE: 1/4" = 1'-0"

CASA MINI

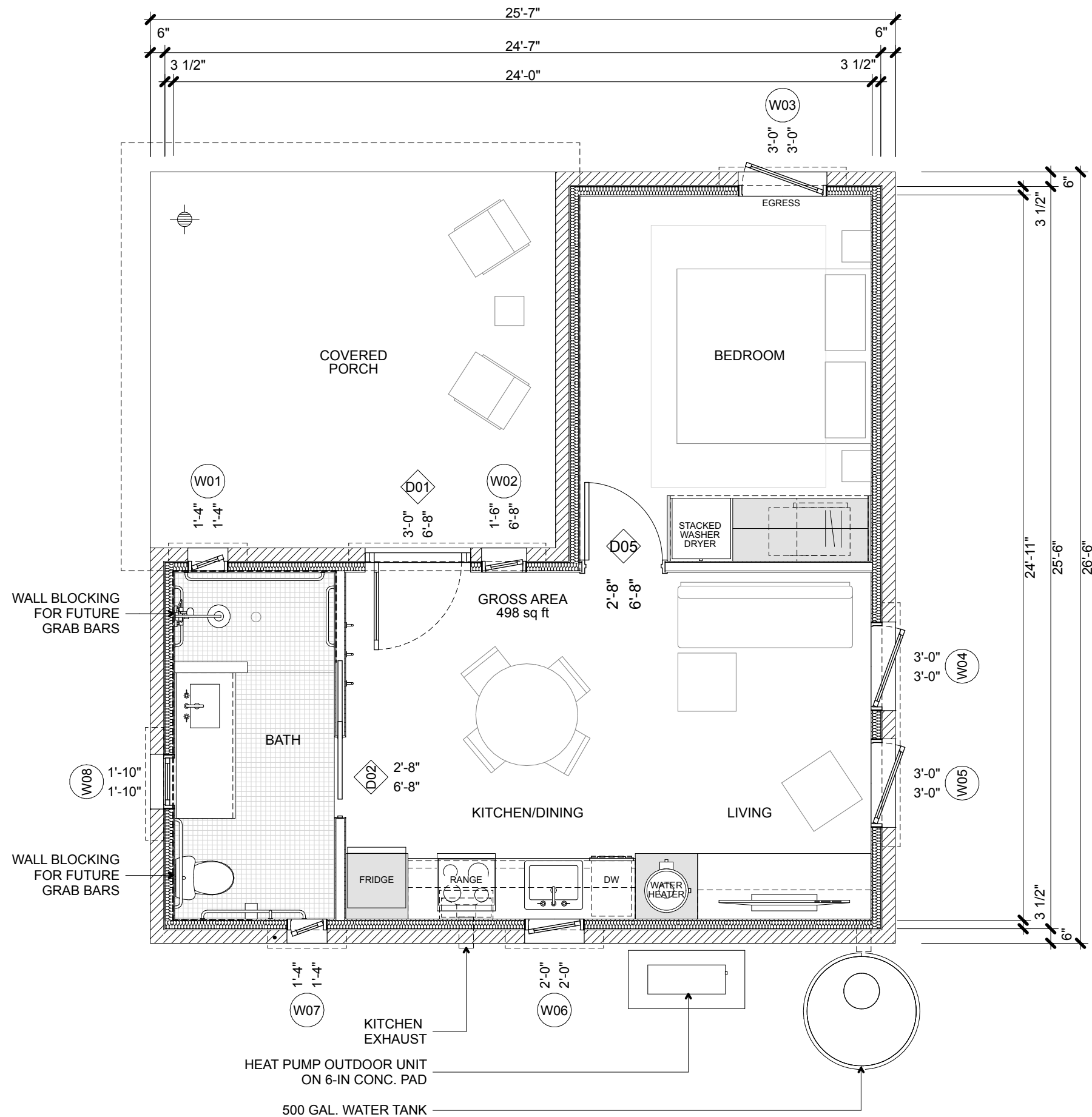
TUCSON, ARIZONA



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↑ **FLOOR PLAN V2**
SCALE: 1/4" = 1'-0"

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